



Fryeburg Water Company

24 Portland Street, Suite #1

Fryeburg, ME 04037

(207) 935-2010

November 6, 2014

Ms. Katie Haley
Code Enforcement Officer
Town of Fryeburg
16 Lovewell Pond Road
Fryeburg, ME 04037

Re: Ward's Pond Aquifer Monitoring Plan

Dear Ms. Haley:

Enclosed please find monitoring data for the first three quarters of 2014 to date. The enclosed data has been collected by Eric Belcher, Assistant Superintendent of the Fryeburg Water Company where Todd Frechette had previously been collecting and reporting the data. My office will continue to compile the data and submit the reports.

BACKGROUND

An aquifer monitoring plan (hereafter referred to as the "Ward's Pond Aquifer Monitoring Plan") was created as a condition of approval by the Fryeburg Planning Board as part of its Notice of Decision for Land Use Authorization in April 2003.

WARDS POND AQUIFER MONITORING PLAN

This monitoring plan has been prepared at the request of the Fryeburg Planning Board as a means of documenting the long term trend in water elevation within the Aquifer surrounding the proposed new production well on Porter Road in the Town of Fryeburg, Maine.

MONITORING LOCATIONS

Six locations are proposed and include four monitoring wells (MW-1, 2, 3, 4) and two surface monitoring locations (SG-1, 2) as shown on the attached map. Three monitoring locations (MW-2, MW-3 and MW-4) monitor groundwater elevation within the aquifer associated with production well #3, located off Porter Road. MW-2 monitors groundwater elevation down gradient of Well #3 and MW-3 and MW-4 monitor up gradient water elevation. MW-1 monitors groundwater elevation associated with Wells #1 and #2, located off Portland Street. Because MW-1 is located in the immediate vicinity of the existing production wells, this well will be monitored at a time when each of the existing wells has not been operating for a minimum of one hour.

2014 GROUNDWATER ELEVATION DATA IN FEET TO DATE

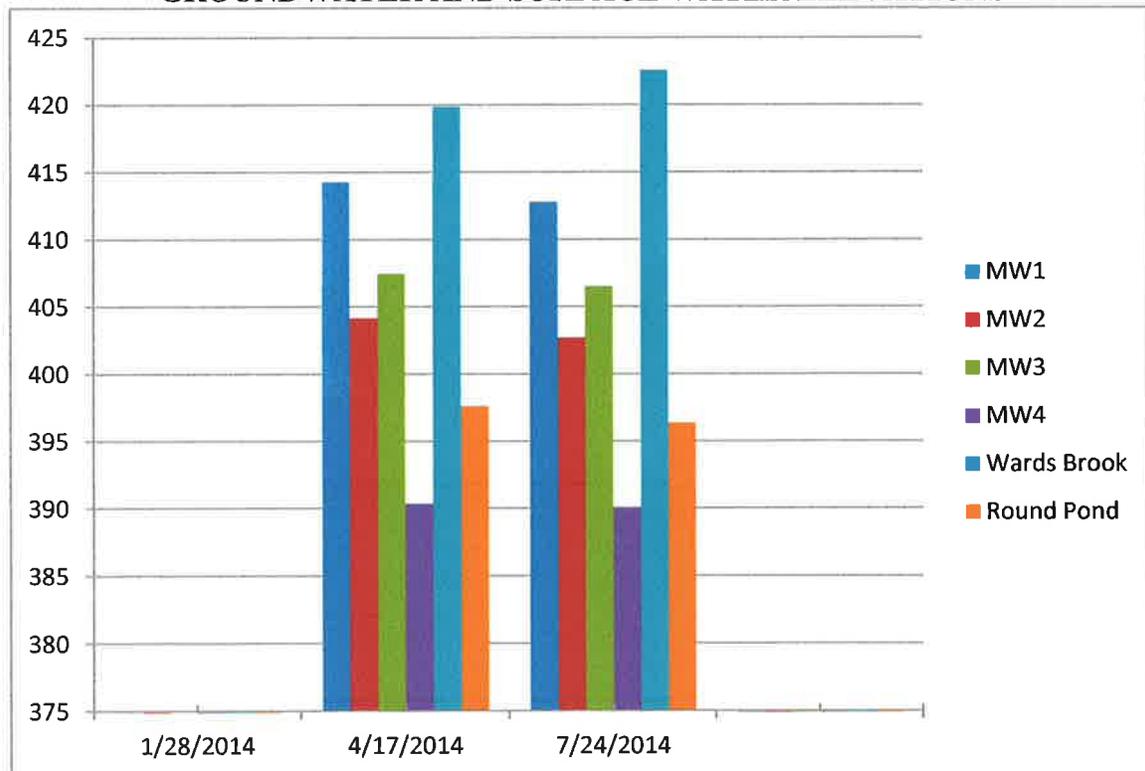
Monitoring Well	Elevation of Well	01/28/14 Depth to Water	01/28/14 Elevation of Water	04/17/14 Depth to Water	04/17/14 Elevation of Water	07/24/14 Depth to Water	07/24/14 Elevation of Water	Depth to Water	Elevation of Water
MW-1	414.47	frozen	#VALUE!	-0.18	414.29	-1.66	412.81		
MW-2	420.43	frozen	#VALUE!	-16.25	404.18	-17.71	402.72		
MW-3	407.83	frozen	#VALUE!	-0.36	407.47	-1.31	406.52		
MW-4	389.63	frozen	#VALUE!	0.74	390.37	0.42	390.05		

Two monitoring locations (SG-1 and SG-2) are proposed to monitor surface water elevations of Round Pond and the headwaters of Wards Pond. Staff gauges will be installed at each location and direct readings of surface water elevation will be collected.

2014 SURFACE WATER ELEVATION DATA IN FEET TO DATE

Surface Well Elevation	Elevation of Well	01/28/13 Depth to Water	01/28/13 Elevation of Water	04/22/13 Depth to Water	04/22/13 Elevation of Water	07/24/14 Depth to Water	07/24/14 Elevation of Water	Depth to Water	Elevation of Water
Round Pond	425.64	frozen	#VALUE!	-5.75	419.89	-3.07	422.57		
Wards Brook	398.55	frozen	#VALUE!	-0.93	397.62	-2.17	396.38		

GROUNDWATER AND SURFACE WATER ELEVATIONS



In order to get all monitoring locations on the same vertical datum a detailed survey will be completed utilizing a Global Positioning System (GPS) and a hand level loop survey, where necessary to achieve both a horizontal and vertical accuracy of 1/100 of a foot. The top of each monitoring well and staff gauge well will have a vertical elevation tied into the 1994 USGS vertical datum. Water elevation data can then be collected and tied to the common USGS vertical datum.

MONITORING PROCEDURES

Each monitoring location will be visited quarterly. At each monitoring well location an electronic water level meter will be lowered into the well. The depth to water from the top of the well casing will be recorded. This depth will be subtracted from a USGS vertical elevation derived from the survey to determine the elevation of the water table. At each staff gauge location the water level will be read directly from the staff gauge and the water elevation will be calculated from the known elevation of the top of each staff gauge.

REPORTING

Data from the four monitoring wells and the surface monitoring locations will be reported on a quarterly basis. At the end of each water year (January) a monitoring report will be submitted to the planning board, in care of the Code Enforcement Officer, for review. The report will document the condition of each monitoring location, a narrative describing the monitoring results including an interpretation of the results, and time series graphs of the water elevation associated with each monitoring location. The data will be presented such that the planning board can interpret the results without outside input.

In addition to the data from the six monitoring location, we will include water withdrawal data from the three wells. Well #1 which is the dedicated well for bulk water withdrawal as well as Wells #2 and #3 which supply the Town's distribution system.

2014 WATER WITHDRAWAL DATA IN GALLONS

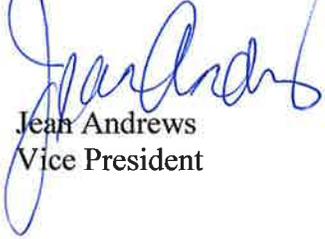
2014	PMS	Pump #2	Pump #3	Total
Jan	9,230,560	2,071,411	6,042,216	17,344,187
Feb	2,456,993	1,901,264	4,324,034	8,682,291
March	5,007,260	2,004,367	5,294,347	12,305,974
April	8,992,568	3,702,452	3,853,336	16,548,356
May	10,477,408	3,847,344	4,386,971	18,711,723
June	10,842,291	3,847,344	4,386,971	19,076,606
July	13,399,507	3,698,774	8,549,707	25,647,988
Aug	12,040,046	3,557,131	7,438,506	23,035,683
Sept	9,096,601	3,638,497	7,011,052	19,746,150
Oct				
Nov				
Dec				
Totals	81,543,234	28,268,584	51,287,140	161,098,958

The comprehensive Emery & Garrett Groundwater Inc. studies undertaken on behalf of the Town of Fryeburg in 2005 conclude that above the amount of water withdrawn by the Fryeburg Water Company to service its residential and other commercial customers, and normal run off, the Ward's Brook aquifer can reasonably sustain discretionary withdrawals of 220 million gallons per year.

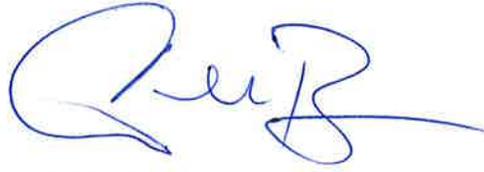
Based on our observation and review of additional monitoring report submitted by Luetje Geological Services, LLC, we have not observed any adverse impact to the Ward's Brook Aquifer.

Please contact our office with any questions at (207) 935-2010.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Jean Andrews".

Jean Andrews
Vice President

A handwritten signature in blue ink, appearing to read "Eric Belcher".

Eric Belcher
Certified Water Operator Class III



Legend

-  Monitoring Well
-  Staff Gauge

Monitoring Well Locations

